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| 10/729,362 | 12/04/2003 | Yin Chen | SVL920030093US1 | 8230 |

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| EXAMINER |
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ALHIJA, SAIF A

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| ART UNIT | PAPER NUMBER |
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2128

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
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Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

| | | | | |
|------------------------------|------------------------|--|---------------------|--|
| Office Action Summary | Application No. | | Applicant(s) | |
| | 10/729,362 | | CHEN ET AL. | |
| | Examiner | | Art Unit | |
| | Saif A. Alhija | | 2128 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/4/04, 12/4/03</u> | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

1. Claims 1-30 have been presented for examination.

PRIORITY

2. Acknowledgment is made of applicant's claim for priority to provisional application 60/510833 filed on 14 October 2003.

Information Disclosure Statement

3. The information disclosure statements (IDS) submitted on 4 December 2003 and 4 March 2004 are in compliance with the provisions of 37 CFR 1.97. Accordingly, the Examiner has considered the IDS' as to the merits.

Specification

4. The disclosure is objected to because of the following informalities:
 - i) Paragraph 1 of the instant application claims priority to a provisional application however no application number is provided.

Appropriate correction is required.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

MPEP 2106 recites:

The claimed invention as a whole must accomplish a practical application. That is, it must produce a "useful, concrete and tangible result" State Street 149 F.3d at 1373, 47 USPQ2d at 1601-02. A process that consists solely of the manipulation of an abstract idea is not concrete or tangibles. See In re Warmerdam, 33 F.3d 1354, 1360, 31 USPQ2d 1754, 1759 (Fed.Cir. 1994). See also Schrader, 22 F.3d at 295, 30 USPQ2d at 1459.

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5. **Claims 1-30 are rejected** under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

i) Claims 1-30 recite collecting, modeling, and analysis of data. This appears to be a mere manipulation of data and as such the claims do not produce a useful, concrete, and tangible result.

ii) Claims 12-15 recite an editor. It is unclear to which statutory class an editor belongs. The Examiner interprets the editor to be a computer program product and will proceed under that assumption.

iii) Claims 26 recites an article of manufacture as well as a method. This appears to be a mixing of statutory classes. Therefore it is unclear to which statutory class the claim belongs.

iv) Claims 1-30 appear to recite a computer program. It should be noted that code (i.e., a computer software program) does not do anything per se. Instead, it is the code stored on a computer that, *when executed*, instructs the computer to perform various functions. The following claim is a generic example of a proper computer program product claim;

A computer program product embodied on a computer-readable medium and comprising code that, when executed, causes a computer to perform the following:

Function A
Function B
Function C, etc...

All claims dependent upon a rejected base claim are rejected by virtue of their dependency.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application

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filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. **Claims 1-11, 16-18, 20, and 24-27 are rejected** under 35 U.S.C. 102(e) as being clearly anticipated by Stewart et al. “**Modular Architecture for Optimizing a Configuration of a Computer System**”, U.S. Patent Application No. 2003/0208284, hereafter referred to as **Stewart**.

Regarding Claim 1:

The reference discloses An apparatus for modeling and analyzing a plurality of computing workloads, comprising: a data collection module configured to gather performance data associated with the operation of a computer system; a modeling module configured to execute at least one model that uses the gathered performance data; a data analysis module configured to present analysis data compiled from the modeling module; and a framework configured to manage the data collection module, the modeling module, and the data analysis module in response to a predefined data and model flow. (**Abstract. Figure 3, and its corresponding description**)

Regarding Claim 2:

The reference discloses The apparatus of claim 1, wherein the framework is configured to selectively operate a predefined data collection module or a user-defined data collection module in response to the predefined data and model flow. (**Paragraph 24. Batch vs Console, for example.**)

Regarding Claim 3:

The reference discloses The apparatus of claim 1, wherein the framework is configured to selectively operate a predefined model or a user-defined model in response to the predefined data and model flow. (**Paragraph 24**)

Regarding Claim 4:

The reference discloses The apparatus of claim 1, wherein the framework is configured to selectively operate a predefined data analysis module or a user-defined data analysis module in response to the predefined data and model flow. **(Paragraph 24)**

Regarding Claim 5:

The reference discloses The apparatus of claim 1, wherein the framework is integrated within a predefined user interface. **(Paragraph 24)**

Regarding Claim 6:

The reference discloses The apparatus of claim 1, wherein the framework is integrated within a third-party application. **(Paragraph 116)**

Regarding Claim 7:

The reference discloses The apparatus of claim 1, wherein the modeling module is further configured to execute a plurality of models such that output data from a first model serves as input data for a second model in a hierarchy of models. **(Page 3, Problem Spec Sample)**

Regarding Claim 8:

The reference discloses The apparatus of claim 1, wherein the modeling module is further configured to execute a plurality of models in parallel. **(Page 3, Problem Spec Sample)**

Regarding Claim 9:

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The reference discloses The apparatus of claim 1, wherein the framework is configured to implement the predefined data and model flow at least in part by defining a workload software object from a persistent data structure, the workload software object comprising parameters for the data collection module, modeling module, and data analysis module. **(Page 3, Problem Spec Sample.**

Paragraph 114)

Regarding Claim 10:

The reference discloses The apparatus of claim 1, further comprising an editor configured to allow a user to define and store the predefined data and model flow. **(Paragraph 25)**

Regarding Claim 11:

The reference discloses The apparatus of claim 1, wherein the at least one model is selected from the group of models consisting of a workload prediction model, a performance analysis model, an optimization model, and a user-defined model. **(Page 3, Problem Spec Sample. Figure 3, and its corresponding description. Abstract)**

Regarding Claim 16:

The reference discloses A system for modeling and analyzing computing operations for a computer system, comprising: a computer system for which computer workloads are to be monitored and analyzed; a data collection module in communication with the computer system and configured to gather performance data associated with the operation of the computer system; a run-time manager configured to periodically poll the data collection module and in response to the data collection module providing the gathered performance data, execute one or more models in a workload module associated with the gathered performance data; a data analysis module configured to present analysis data compiled from the

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workload module in response to an event. **(Page 3, Problem Spec Sample. Figure 3, element 308, and its corresponding description. Paragraph 69-70. Abstract.)**

Regarding Claim 17:

The reference discloses The system of claim 16, further comprising a user interface configured to execute one or more workload modules within the run-time manager in response to a user request, each workload modules defining a data and model flow specifically designed for the computer system, the data and model flow defined within a persistent data structure. **(Abstract. Figure 3, and its corresponding description)**

Regarding Claim 18:

The reference discloses The system of claim 16, wherein the event comprises analysis data that fails to satisfy a threshold value. **(Paragraph 21)**

Regarding Claim 20:

The reference discloses The system of claim 16, further comprising an event handler that executes a predefined action in response to the event. **(Paragraph 29)**

Regarding Claim 24:

The reference discloses A method for modeling and analyzing a plurality of computing workloads, comprising: gathering performance data associated with the operation of a computer system; executing at least one model that uses the gathered performance data; presenting analysis data compiled from the at least one model; and providing a framework configured to manage the gathering of performance data, the execution of the at least one model, and the presentation of the analysis data in

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response to a predefined data and model flow. **(Claim Interpretation. The phrase “that uses” appears to be intended uses and therefore the limitations following the phrase are not afforded patentable weight.)** (Page 3, Problem Spec Sample. Figure 3, and its corresponding description. Abstract)

Regarding Claim 25:

The reference discloses The method of claim 24, wherein the framework is executed from within a third-party application. **(Paragraph 116)**

Regarding Claim 26:

The reference discloses An article of manufacture comprising a program storage medium readable by a processor and embodying one or more instructions executable by a processor to perform a method for modeling and analyzing a plurality of computing workloads, the method comprising: gathering performance data associated with the operation of a computer system; executing at least one model that uses the gathered performance data; presenting analysis data compiled from the at least one model; and providing a framework configured to manage the gathering of performance data, the execution of the at least one model, and the presentation of the analysis data in response to a predefined data and model flow. **(Claim Interpretation. The phrase “that uses” appears to be intended uses and therefore the limitations following the phrase are not afforded patentable weight.)** (Page 3, Problem Spec Sample. Figure 3, and its corresponding description. Abstract)

Regarding Claim 27:

The reference discloses An apparatus for modeling and analyzing a plurality of computing workloads, comprising: means for gathering performance data associated with the operation of a computer system; means for executing at least one model that uses the gathered performance data; means

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for presenting analysis data compiled from the at least one model; and means for providing a framework configured to manage the gathering of performance data, the execution of the at least one model, and the presentation of the analysis data in response to a predefined data and model flow. **(Claim Interpretation.**

The phrase “that uses” appears to be intended uses and therefore the limitations following the phrase are not afforded patentable weight.) (Page 3, Problem Spec Sample. Figure 3, and its corresponding description. Abstract)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. **Claim(s) 12-15, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stewart.**

Regarding Claim 12:

Stewart discloses An editor for defining, revising, and storing a data and model flow for modeling and analyzing a plurality of computing workloads, comprising: an identification module for gathering an identifier for a data and model flow; a measurement module for designating a data collection module configured to gather performance data associated with the operation of a computer system; a model module for designating at least one model that uses the gathered performance data; a metric map for defining model variables required to analyze analysis data compiled from the at least one model; designating a data analysis module configured to present analysis data compiled from the at least one model. **(Claim Interpretation. The phrases “for gathering”, “for designating”, “that uses”, and “for defining” appear to be intended uses and therefore the limitations following the phrases are not afforded patentable weight.)** (Page 3, Problem Spec Sample. Figure 3, and its corresponding description. Abstract)

Stewart does not explicitly disclose a plot module for designating a data analysis module configured to present analysis data compiled from the at least one model.

However, it would have been obvious to one of ordinary skill in the art to graphically plot the result data provided by **Stewart** in order to allow for user simplicity.

Regarding Claim 13:

Stewart discloses The editor of claim 12, further comprising a storage module configured to store and retrieve the data and model flow from a persistent data structure. **(Paragraph 114. Page 3, Problem Spec Sample)**

Regarding Claim 14:

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Stewart discloses The editor of claim 13, wherein the persistent data structure comprises an eXtensible Markup Language (XML) file. **(Page 3, Problem Spec Sample)**

Regarding Claim 15:

Stewart discloses The editor of claim 13, wherein the persistent data structure comprises a database. **(Paragraph 9)**

Regarding Claim 19:

Stewart discloses The system of claim 16, wherein the event comprises a user request for analysis data.

(Page 3, Problem Spec Sample. Figure 3, and its corresponding description. Abstract)

Stewart does not explicitly disclose the data analysis module presenting the analysis data to a user by way of a user-definable plotting module.

However, it would have been obvious to one of ordinary skill in the art to graphically plot the result data provided by **Stewart** in order to allow for user simplicity.

8. **Claim(s) 21-23, and 28-30** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Stewart in view of Applicants own Admission.**

Regarding Claim 21:

Stewart discloses An application programming interface (API) for modeling and analyzing of computing workloads, comprising: a measurement software class configured to gather performance data associated with the operation of a computer system; a workload software class that defines a data and model flow associated with the computer system, the workload software class comprising one or more

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model software classes that utilize the gathered performance data to model attributes of the computer system; and a run-time manager software class configured to periodically poll for measurement objects instantiated from the measurement software class and execute one or more model objects instantiated from the one or more model software classes in response to the data and model flow defined by one or more workload objects (**Page 3, Problem Spec Sample. Figure 3, element 308, and its corresponding description. Paragraph 69-70. Abstract.**)

Stewart does not explicitly disclose the phrase “real-time.”

However, the stopping and starting of analysis shown in Figure 3 for example denotes real time. Further, **Applicants own Admission** in paragraph 8 of the specification of the instant application supports that real time analysis is common and would have been obvious to one of ordinary skill in the art in order to monitor a system as it runs.

Regarding Claim 22:

Stewart discloses The API of claim 21, further comprising a interface module configured to start and stop execution of one or more workload objects. (**Page 3, Problem Spec Sample. Figure 3 and its corresponding description**)

Stewart does not explicitly disclose the phrase “real-time.”

However, the stopping and starting of analysis shown in Figure 3 for example denotes real time. Further, **Applicants own Admission** in paragraph 8 of the specification of the instant application supports that real time analysis is common and would have been obvious to one of ordinary skill in the art in order to monitor a system as it runs.

Regarding Claim 23:

Stewart discloses the analysis data associated with a specific workload object identified by a user. (Page 3, Problem Spec Sample. Figure 3 and its corresponding description)

Stewart does not explicitly disclose The API of claim 21, wherein the interface is further configured to present analysis data compiled by a plot object instantiated from a plot class.

However, it would have been obvious to one of ordinary skill in the art to graphically plot the result data provided by **Stewart** in order to allow for user simplicity. This can also be seen by **Applicants own Admission** of monitoring analysis disclosed in the Background of the instant application.

Regarding Claim 28:

Stewart discloses A method for modeling and analyzing a plurality of computing workloads, said method comprising: specifying a data and model flow for monitoring a computer system; invoking a modeling and analysis utility, wherein the data and model flow defines performance data that is collected and models that are executed periodically using the performance data to compile analysis data representative of results from one or more of the models; and receiving a representation of the analysis data from the modeling and analysis utility, in response to an event. (Page 3, Problem Spec Sample. Figure 3 and its corresponding description)

Stewart does not explicitly disclose a “real-time graphical representation of the analysis data.”

However, the stopping and starting of analysis shown in Figure 3 for example denotes real time. Further, **Applicants own Admission** in paragraph 8 of the specification of the instant application supports that real time analysis is common and would have been obvious to one of ordinary skill in the art in order to monitor a system as it runs. Further, it would have been obvious to one of ordinary skill in the art to graphically plot the result data provided by **Stewart** in order to allow for user simplicity. This can also be seen by **Applicants own Admission** of monitoring analysis disclosed in the Background of the instant application.

Regarding Claim 29:

Stewart discloses The method of claim 28, wherein the event comprises analysis data that fails to satisfy a threshold value. **(Paragraph 21)**

Regarding Claim 30:

Stewart discloses The method of claim 28, wherein the event comprises a user request. **(Page 3, Problem Spec Sample. Figure 3 and its corresponding description)**

Stewart does not explicitly disclose the modeling and analysis utility presenting the graphical representation of the analysis data to a user by way of a user-defined plotting module.

However, it would have been obvious to one of ordinary skill in the art to graphically plot the result data provided by **Stewart** in order to allow for user simplicity. This can also be seen by **Applicants own Admission** of monitoring analysis disclosed in the Background of the instant application.

Conclusion

9. All Claims are rejected.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Saif A. Alhija whose telephone number is (571) 272-8635. The examiner can normally be reached on M-F, 11:00-7:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamini Shah can be reached on (571) 272-2279. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SAA

December 18, 2006


KAMINI SHAH
SUPERVISORY PATENT EXAMINER